

Overview of the Arizona Underground Storage, Savings and Replenishment Program



Recharge Program Overview

- **Adding renewable water supplies to an aquifer (USF) for future use**
- **Renewable water source = Effluent, Surface Water or Central Arizona Project (CAP)**
- **Provides for an accounting system for recharged and recovered water**

Recharge Program Permits

- **Recharge Facilities Permits – Two Types**
 - **Groundwater Savings Facilities (GSF)**
 - **Underground Storage Facilities (USF)**
 - **Managed USF**
 - **Constructed USF**
- **Water Storage Permits**
- **Recovery Well Permits**

Underground Storage Facilities (USF)

- A facility that adds renewable water supplies to an aquifer
- Water that is recharged into the ground, minus physical losses such as evaporation or transpiration, earns Long Term Storage Credits which can be pumped at a future date
- Two types of USFs
 - Managed USF
 - Constructed USF

Underground Storage Facilities Managed

- **Managed releases of source waters into a natural river course**
- **Without use of constructed devices**
- **No facility maintenance**
- **Do not get “credit” during times of storm water flows**



Lower Santa Cruz USF

Underground Storage Facilities Managed



Constructed Underground Storage Facility (USF)

- Incorporates constructed devices to direct and increase infiltration of source water
- Requires facility maintenance
- 3 main types
 - recharge basins
 - vadose zone recharge wells
 - aquifer storage & recovery (ASR) wells/
injection wells

Constructed USFs Basin Recharge Facilities



Tonopah Recharge Facility



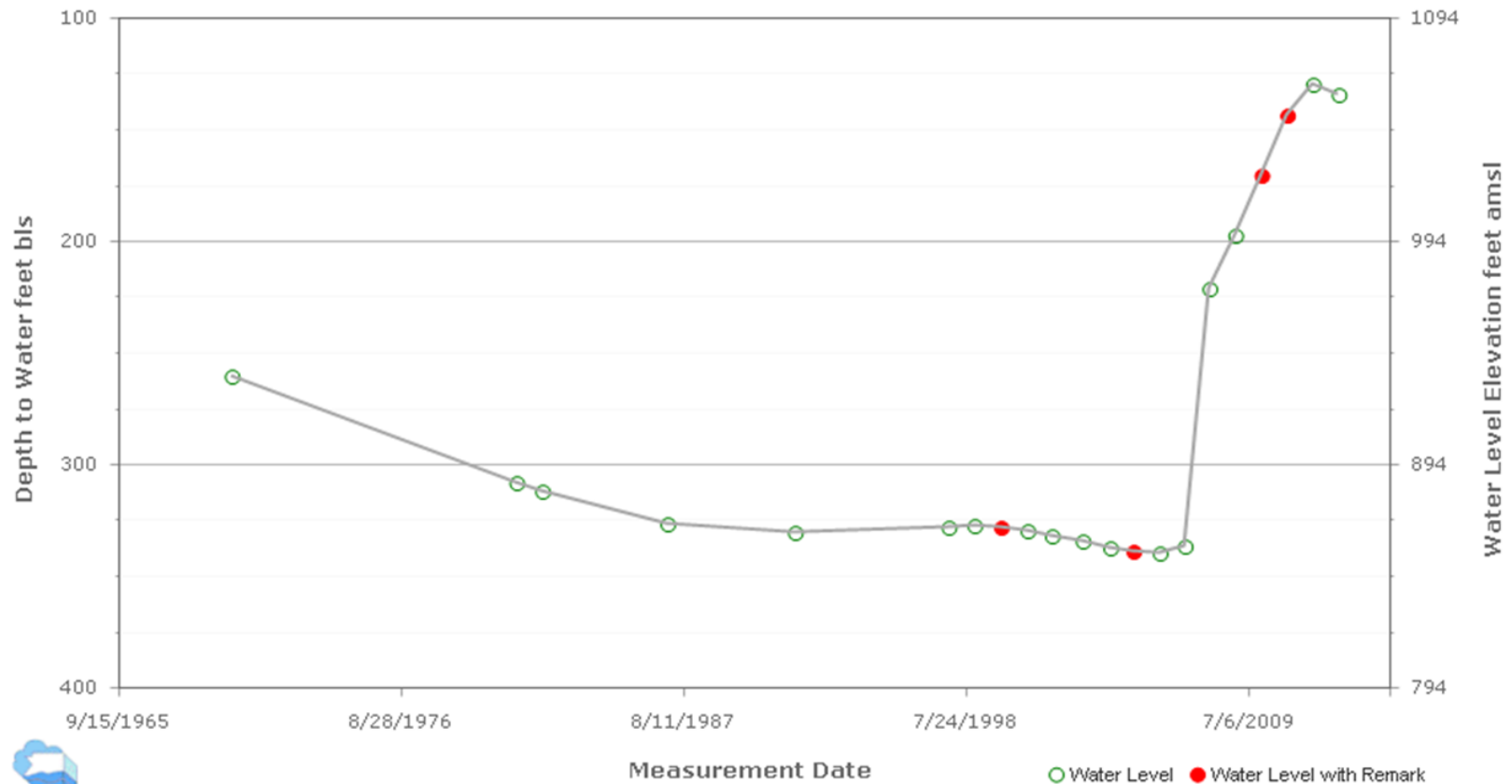
Photo courtesy of CAWCD



Tonopah Recharge Facility

Arizona GroundWater Monitoring Site Hydrograph

Local ID	Site ID	Registry ID	Latitude NAD27	Longitude NAD27	Alt. (ft amsl)	Water Use	Well Depth (ft)	Case Dia.(in)	Drill Date	Latest WL Date	DTW (ft)	WL Elev. (ft)
B-02-07 12CBB	333146112560801	802455	33° 31' 45.6"	112° 56' 8.8"	1194	DOMESTIC	600	12	11/30/1962	12/13/2012	133.7	1060.3



GWSI is ADWR's technical database of well locations, construction data, and water levels.

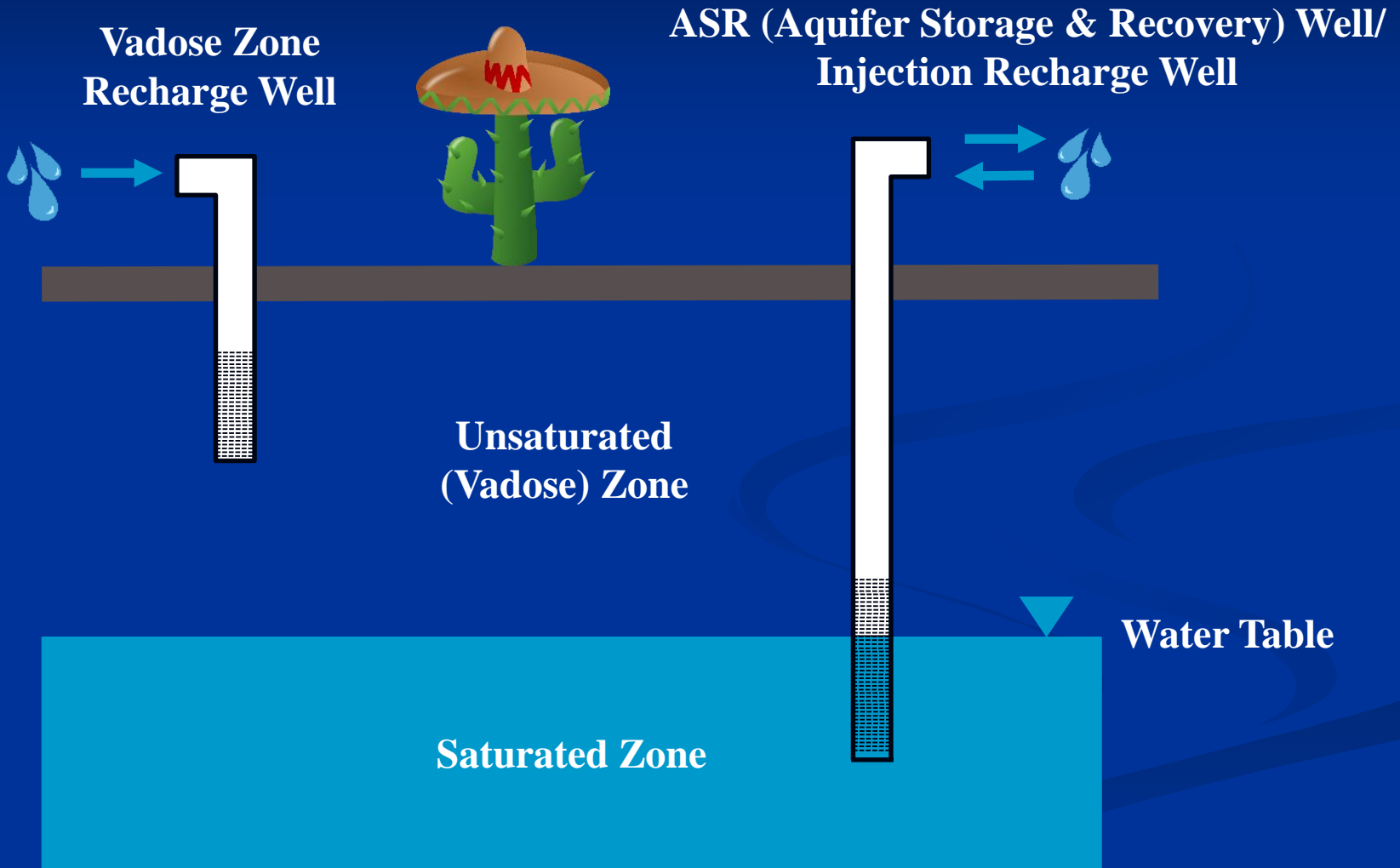
Created on 7/10/2013

Constructed USFs

Recharge Wells

- **Vadose zone wells**
- **Injection wells**
- **Aquifer storage and recover wells (ASR wells)**

Recharge Wells



Constructed USFs

Vadose Zone Well Facilities



Constructed USFs ASR Well Facilities



Constructed USFs

Non-Traditional Facilities

- **Variety of miscellaneous constructed USFs**
 - **Multi-use recharge facilities**
 - **In-channel constructed recharge facilities**
 - **Facilities employing a combination of recharge methodologies at same site**
- **Allows flexibility based on water management needs, community needs and site characteristics**

Constructed USFs

Multi-Use Facility



Constructed USFs

In-Channel Constructed Facility



Constructed USFs

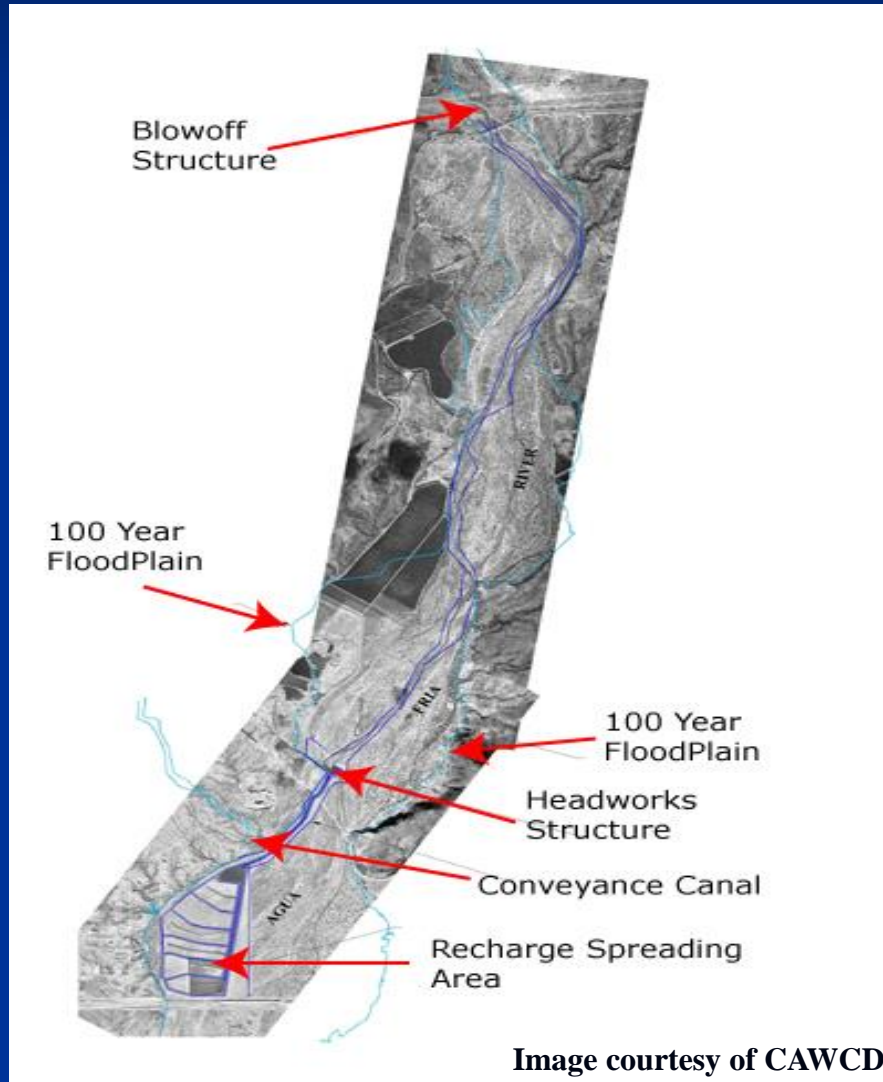
In-Channel Constructed Facility



Constructed USFs Combination Facility



Constructed USFs Combination Facilities



Questions?

www.azwater.gov —> Programs —> Recharge